

REMARKS

Examiner, in the Official Action dated November 5, 2008 rejected the presented claims under 35 USC 102 (b) as being anticipated by Krowtech et al and Woodings et al. Under Krowtech, the Examiner stated that Krowtech et al teaches a lance device (36) including a frame, guide, and pneumatic reciprocating drive means, in the embodiments of figures 2-4, for example, which can be operated in the manner recited in the instant claims, thereby showing all the aspects of claims 1-5. Regarding Woodings et al, the Examiner found that Woodings et al teaches a lance device (the drill shaft) including a frame, guide, and reciprocating pneumatic drive means, in the embodiments of figures 2 and 3, for example, which can be operated in the manner recited in the instant claims, thereby showing all aspects of the above claims since the drill meets the general description of a lance. Further, the Examiner noted that Applicant's arguments filed on 9/3/2008 were considered but not considered persuasive. More specifically, the arguments that the presented claims distinguish over Krowtech because the reciprocating of Krowtech means only movement in a single direction back and then back again rather than multiple movements back and forth is not persuasive. Continuing, the Examiner said that the recitation in the presented claim is at best a limitation regarding the use of the claimed apparatus and the recited use could be performed by Krowtech if desired, particularly since the then presented claims recite no periodicity of the movement of the lance, so a plurality of movements back and forth even over a period of days or weeks would broadly meet the requirements of the claims. With respect to Woodings, Examiner noted further that manner or method of use of an apparatus cannot be relied upon to fairly

further limit claims to the apparatus itself.

In response to the Examiner's arguments in the Official Action, applicant has amended the main claim in the application in two key ways. First, the drive means are called out to engage with the lance, and second, and of special importance, the drive means comprises a pneumatic valve which switches pneumatic pressure to the pneumatic motor thereby enabling the driving of the lance forward and backward "in a pulsating manner". Using a wholly pneumatic timer circuit including the above mentioned pneumatic valve enables the present invention to move in a pulsating manner. Further, as opposed to both of the references, engaging the drive means on the lance itself obviates the limitation of movement of the "lance" present in both Krowtech and Woodings. In Krowtech, the blowing tube or "lance" is connected to his piston, and its movement is limited by the stroke length of the piston itself. Likewise, in Woodings, the boom structure limits the movement of the drill bit or "lance".

In use, as would be apparent to one skilled in the art, the pneumatic valves can be made to switch the pressure to the pneumatic motor driving the lance in intervals of, for example, one tenth of a second. This interval will then continue so that the lance is driven backward and forward steadily in a rhythmic way as the cleaning process proceeds. This movement in a pulsating manner enables enhanced cleaning of pipes that employ applicant's lance. From review of both the disclosure of Krowtech et al, and Woodings et al, it is clear that movement in a pulsating manner is not desired and, in fact, not possible given the control means that they use to move their devices. In Krowtech, to move his sootblower a gas flow must be supplied in chamber 60 or 62 dependent on the position of the sootblower. To vary this gas flow in such a manner as to effect a

pulsating movement would require unobvious modifications of his control means. As shown in Figure 3, and described in column 6, lines 44-61, and column 7, lines 52-57, the control valves are conventional valves which open to allow pressurized gas to flow to the desired part of his system. No mention is made of pneumatic valves to control the extension or retraction of the blowing tube, since Krowtech's apparatus is intended to either retract or extend smoothly. Krowtech, would not desire a pulsating movement of the blowing tube given the operation of his apparatus. He certainly does not teach or lead toward any forward movement of his lance in a series of small steps in a pulsating manner as does applicant. Further, as Krowtech's lance is driven by pressurized gas against a piston, and preferably "spirals forward", a pulsating movement would be unnecessary to his operation and perhaps not possible as switching pressure forward and behind his piston cannot occur to rapidly enough to effect a pulsating movement without some unobvious modification to his control means. Certainly driving his blowing tube forward in a series of small steps has no advantage in his system to say the least, whereas it is key to the present invention. The use of a pneumatic valve switching pressure to a pneumatic motor and the circuit disclosed in the present invention allows the desired pulsating movement. A pneumatic valve switching pressure to a pneumatic motor to create a pulsating movement key to the lance of the present invention is not disclosed nor is obvious given Krowtech's apparatus.

A similar analysis applies to Woodings, in that a pulsating movement of his drill would serve no useful purpose. In fact, any inadvertent pulsating movement of his drill during operation could hinder successful operation of his drill. As in Krowtech, there is no disclosure of a pneumatic means to control the backward and forward movement of

the drill, so as to allow a pulsating movement of the drill during operation.

In light of the above arguments along with the changes in the claim language made in this amendment , it is requested that the rejection of the claim be reconsidred by the Examiner. Allowance of the presented claims is solicited at an early date.

Sincerely,

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